

**Moving Toward Zero Waste: A Shared Vision for
Wisconsin's Future**

**Application of
the Environmental Management System (EMS)
to
Future Waste Management Policy Development**

Final Report

June 2002

Wisconsin Department of Natural Resources

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Application of the Environmental Management System (EMS) to Future Waste Management Policy Development

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June 2002

Executive Summary

The Waste Management Program applied the Environmental Management System (EMS) to its policy development work from August 2000 to June 2002. This pilot project was one of six within the Wisconsin Department of Natural Resources and is unique in that it is the only one to focus on policy development, rather than operations. Consistent with EMS, the central point of focus was the question, "Where should we spend our resources to affect the greatest environmental gains?" Extensive stakeholder involvement was a cornerstone throughout the course of the work.

Engaging stakeholders as partners to design the process and then develop the end product was essential to establishing common expectations and a shared vision of how Wisconsin should best move forward. A key first step was creating a shared foundation – a statement explicitly outlining common principles – for how the Waste Program and its stakeholders would work together to achieve effective waste and materials management.

Working from that shared foundation, the vision of "Moving Toward Zero Waste" became the focal point for policy development through 2008. Four priority goals were identified to direct work activity that would create the greatest environmental gain: 1) minimize and prevent waste, 2) minimize the potential for environmental impacts of landfills, 3) eliminate backyard burning and dumping, and 4) develop effective education programs to support the previous goal areas.

Significant gains in the future will require focused and difficult policy decisions in order to help us reach well beyond the current levels of waste management. This project sets both the expectation for stakeholder involvement as well as the commitment to shared principles to continue to improve and create innovative waste and materials management policies in Wisconsin.

Application of the Environmental Management System (EMS) to Future Waste Management Policy Development

Moving Toward Zero Waste: A Shared Vision for Wisconsin's Future

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Introduction

To improve how policy is developed and reviewed, and to generate forward thinking for the next six years, the Waste Management Program applied the methodology of the Environmental Management System (EMS) to its policy development work. EMS is an internationally recognized way to identify and address the greatest environmental impacts in any organization's operations and decision-making. This project is one of six pilots agency-wide intended to explore the benefits of applying EMS to the work that we do. This pilot is unique in that it focuses on policy development rather than operations.

From the inception of this project in August 2000, broad and significant stakeholder involvement has been a consistent component. The Waste Program realized that a larger, systemic approach with stakeholders would better affect change and result in more meaningful solutions. It was a deliberate choice to involve stakeholders at each level of activity and decision-making. As the pilot developed, an ever-widening circle of stakeholders was involved to maximize exposure and engagement as well as develop policies that would have a broad base of understanding and support.

Through the disciplined approach of applying EMS, internal and external stakeholders were repeatedly asked, "Where should we spend our resources to affect the greatest environmental gains? And, if we were to make those resource allocations, what implications are there for future policy development?" In the course of our meetings, the Waste Management Program intentionally broadened the conversation to address and respond to the challenges posed by the amount, type and characteristics of the waste currently being generated and managed in Wisconsin.

Designing the Process

In the fall of 2000, a group of fourteen people¹ was convened to apply the EMS process to policy development in the Waste Management Program. Everyone brought specific ideas about policies they wanted to see implemented, and discussions were lively. As the group continued its work, however, they recognized the need to have a common foundation upon which specific policy initiatives could be built to create a strong and coherent system. Interested in moving away from the mode of establishing policy based on individual issues that may not consider broader systemic issues, they identified four high priority Waste Management activities for policy development that would help create that common foundation:

- to engage stakeholders in strategic planning,
- to set clear goals,

¹ See Appendix A for a listing of stakeholders.

- to establish common expectations, and
- to define guiding principles.

These activities were developed into "objectives and targets," and represent the road map and timeline for the rest of the project activities (Appendix B). They also drafted a preliminary principles statement.

Target 1, Part 1 – Regional Meetings

A series of six meetings were held around Wisconsin in late June and early July 2001 to secure broader stakeholder reaction and input on the principles document, and gather experiences with and hopes for the Waste Program. Questions used for framing the discussion at all stakeholder meetings were:

- What about waste management do people care about?
- Is the program addressing the right problems?
- What needs more attention?
- What needs less attention?
- What needs a whole new strategy?
- What types of incentives could lead to better waste management?
- Are there appropriate ways for the Waste Program to influence materials management?
- What are your frustrations with how the current system is structured?
- What feels outside your ability to influence but has significant impact on the generation and management of waste?

Themes that emerged from the meetings as important for future strategic policy development are noted in Appendix C. These themes were also later used as a part of the Target 3 Group's deliberations.

Significant and detailed reactions were summarized regarding the draft principles statement. This information was used with the Target 1 Group in their work to finalize the principles.

Target 1, Part 2 - Finalizing the Principles

Another stakeholder group of 13 persons² was convened in October 2001. Their task was to take the draft principles, review the comments from the regional meetings and create the final principles document (detailed below as well as included separately as Appendix D).

These principles were not merely the result of a philosophical exercise, but were designed to reflect a broad base of agreement among internal and external stakeholders alike. They incorporate and describe how the Waste Program intends to work with others more effectively to develop policies in ways that will benefit the environment. The principles also underscore that responsibility for sound environmental practices reach far beyond DNR regulation and oversight.

Subsequent to the development of the principles, an additional document (Appendix E) was created to provide examples of how these principles can be applied to policy development. The intent is to make explicit and intentional the basis upon which environmental policy will be shaped in the future.

² See Appendix A for list of stakeholders.

Principles Underlying Future Waste Management Policies

These principles are meant to be living language, and not just fine print. They are to be used to spark honest, constructive dialogue among the wide range of interested parties.

Language incorporated in these principles reflects an interest in encouraging not only enforcement but also voluntary actions as potential ways for affected parties to address important environmental concerns. Our work with stakeholder groups in developing these principles indicates that resource use and conservation are issues of stewardship for so many—not just the Waste Program or DNR.

We expect that applying these principles to future work will promote more effective engagement among all parties, bringing about the greatest amount of environmental gain and protection.

Purpose: To provide a shared foundation between the Waste Program and its stakeholders to work together to achieve effective waste and materials management.

Clear and measurable goals

- Policies should establish clear goals that can be evaluated.

Resource use and conservation

- Policies should address the inter-relatedness of air, land, and water.
- Policies should recognize the environment does not stop at political boundaries.
- Policies should conserve resources for the benefit of future generations.
- Policies should consider both the long-term and short-term needs and demands of the natural environment and human society.
- Policies should optimize the cycle of materials use, recovery and reuse.
- Policies should create conditions for directing public and private resources efficiently in order to achieve continuing environmental improvement and protection.

Informed environmental choices

- Policies should ensure that knowledge about environmental consequences is integrated into the choices and decisions that people make.
- Policies should be based on the best available scientific and economic information.

Accountability

- Policies should encourage acceptance of personal responsibility for consequences of one's actions.
- Policies should include a continuous educational process to help individuals and organizations develop environmental accountability.

Public involvement

- Policies should be the result of a public dialogue on desired environmental outcomes.
- Policies should result from an inclusive process that involves the interested public.

Mechanisms

- Policies should be flexible, encourage transparency, reward innovation and contain both incentives and disincentives.

Target 3 - Sifting and Winnowing

Target 3 Group's³ work narrowed an extensive list of ideas into a vision for the future of waste management policy and three concrete goals designed to produce measurable benefits for Wisconsin over the next six years.

The Target 3 Group's first meeting generated a list of fifty responses to the question, "Given what we know and can anticipate, what are the waste issues that have the potential for greatest environmental benefit for the state of Wisconsin?" The suggestions ranged from those addressing particular *waste streams* (organics, electronics), *materials* (reusable processed byproducts, such as foundry sand, coal ash, paper mill sludge), *policy mechanisms* (producer responsibility, full-cost accounting), *waste management methods* (landfilling, backyard burning), *goals* (zero waste), *non-regulatory approaches* (public education, economic incentives), and *government agency performance* (efficiency, staffing).

The Group's fifty suggestions were then categorized for ease of review and consideration. Members of the group then prioritized the list. The Group indicated a preference for the following categories and items included in those categories:

- Economic incentives/disincentives
- Landfills
- Education
- Zero waste
- How Department business gets done
- Waste minimization/prevention
- PBTs (persistent bioaccumulative toxics), POPs (persistent organic pollutants)

A majority of the Group stated a preference for setting Zero Waste as the "vision" within which goal setting and policy development would proceed over the next six years. Having established the vision of "*Moving Toward Zero Waste*," the Group selected four priority goal areas:

- Minimize and prevent waste;
- Minimize the potential for environmental impacts of landfills;
- Eliminate backyard burning and dumping; and,
- Develop effective education programs to support the above goal areas.

By consensus the Group merged the fourth goal, effective education programs, into each of the other three goals as a priority strategy.

Additionally, a Template for Policy Development (Appendix F) was created that provides a deliberate sequence for future policy development work and is reflected in the following narratives. The policy development sequence includes problem identification through clear and thorough definition of an issue, development of potential solutions through stakeholder involvement, selection and implementation of solutions that best reflect the policy development principles, and evaluation of progress and the need for modifications or adjustments. Each phase in the sequence will include a determination of whether it is appropriate to move particular activities on to the next phase and, if so, what the scope of the next phase should be. The following narratives include some specific activities that were determined to be priority candidates for review. Learning gleaned from this process will inform and likely modify the subsequent policy development activities that are undertaken.

³ See Appendix A for list of participants.

Goal Narratives with Key Activities

GOAL: Minimize and Prevent Waste

A vision of “Moving Toward Zero Waste” is, at its core, defined by strategies for waste minimization⁴ and prevention. Throughout the Future of Waste Management Policy Development EMS process, working groups identified various aspects of waste minimization and prevention and encouraged the Waste Program to think more broadly about the means for going beyond recycling and remediation.

The goal of waste minimization and prevention endorsed by the Target 3 Group reflects a combination of existing DNR waste reduction programs with innovative and progressive approaches. Moreover, this goal blends regulatory and non-regulatory means of minimizing and preventing waste, premised on a factual background and established best practices, as well as a commitment to outreach, communication, and education. Primary attention will be devoted to waste generation based on considerations of volume and toxicity.

The priority waste minimization and prevention strategies are captured in the four progressive phases of activity applied to each of the Target 3 Group’s goals. Importantly, scores of additional “lower priority” strategies were identified and are included in the Group’s work product. To varying degrees, these “lower priority” strategies also will move forward as work progresses through each phase and some of these are explicitly connected to strategies and activities prioritized in the companion goals statements. Target 3 Group’s waste minimization and prevention priorities, therefore, are neither static nor freestanding.

The following priority waste minimization and prevention activities are identified by Target 3:

Phase I – Defining the Issue

- Identify and evaluate key opportunities for minimizing pollution transfer.
- Identify industrial sectors as well as specific companies that are interested in promoting waste minimization.
- Prioritize categories of waste generation based on volume and toxicity.
- Identify potential partners for a pilot for designing out waste in products.

Phase II – Developing potential mechanisms

- Establish technical support and innovations team for exploring and sharing what has worked/is effective elsewhere.
- Evaluate and, where appropriate, promote economic mechanisms to increase producer, product, and purchaser responsibility.
- Explore other tools that will help reduce volume and toxicity of waste.

Phase III – Implementing mechanisms that will achieve maximum environmental gain

- Support pilots into phasing out certain pollutants or certain classes of pollutants by identifying alternatives.

⁴ Waste minimization includes preventing or reducing the generation of pollutants, contaminants, hazardous substances or wastes at the source; reducing the amount of waste for treatment, storage, and disposal through reuse and recycling.

- Identify appropriate lead entity to use power of government procurement to increase demand for environmentally preferable products and thereby decrease costs.
- Develop an education program aimed at educating consumers, businesses, and environmental groups re: the environmental consequences of the choices they make.
- Support pilots into the use of recycled and recyclable materials in product design.
- Develop partnerships and educational programs with trade associations which allow for educating entire industry sectors.

Phase IV – Check policy and mechanisms for results and effectiveness

- To be determined based on progress of preceding phases.

GOAL: Minimize the Potential for Environmental Impacts of Landfills

Landfilling, being by far the most prevalent method of waste management, holds significant potential for negative environmental impacts. As such, the Target 3 Group has created the goal to “minimize the potential for environmental impacts of landfills.” To support the overall vision, strategies selected for the goals are focused on improved practices and methods of operation and, to a lesser extent, enhancement of existing engineering controls. Because current landfill practices and operations are highly complex and closely regulated, the Target 3 Group strategically focused on several specific pilots in Phase II that were considered likely to have the high potential for environmental impact. With the learning from those pilots in hand, specific new policy development can be determined in Phase III.

Focusing on inputs (what is generated; what is it made of; how is it managed prior to disposal; are there better means of management?) is intended to bring attention to such issues as product substitution, manufacturer responsibility, improved early management and capitalizing on currently overlooked/underutilized operational and engineering opportunities. The Target 3 Group also agreed that issues of long-term financial responsibility are critical to future policy development work.

The following activities have been identified by Target 3 to support this goal:

Phase I – Defining the Issue

- Identify important regional differences and implications that may need to be factored into policy development.
- Gather current breakdown of wastes going to landfills and evaluate their relative environmental threats.
- Gather information from others regarding what is banned, and impact (if known) of the pollutants escaping from the landfill.
- Identify and evaluate key opportunities for minimizing the escape of pollutants from landfills.

Phase II – Developing potential mechanisms

- Consider a pilot with partners that diverts organics from landfills.
- Consider making landfill long term care proof of financial responsibility period perpetual and adding requirements for up-front remedial action proof of financial responsibility.
- Evaluate a possible ban from landfills on mercury containing wastes.
- Review opportunities for streamlining of permitting/licensing processes.
- Consider a pilot with partners that excludes construction and demolition waste from municipal solid waste landfills.

Phase III: Implementing mechanisms that will achieve maximum environmental gain

- Review the results from various pilot efforts undertaken in Phase II and determine what new policy initiatives should be pursued.

Phase IV – Check policy and mechanisms for results and effectiveness

- To be determined based on progress of preceding phases.

GOAL: Eliminate Backyard Burning and Dumping

The Future of Waste Management Policy Development EMS process and associated work groups have identified backyard burning and dumping as a problem in Wisconsin that has potentially significant economic, environmental, and social impacts. Given the extent of the problem across the state and its potential health and environmental impacts, eliminating backyard burning and dumping is critical to moving toward zero waste in Wisconsin.

In order to pursue the goal of elimination of backyard burning and dumping in Wisconsin, we will carry out the same four phases identified earlier that will be applied to all of our goals. The strategies that we have chosen to help accomplish our goal concentrate on outreach, education, and developing partnerships with stakeholders such as local government, health organizations, environmental groups, and the waste management industry.

As we carry out our strategies through the various phases, there are other mechanisms that may also be addressed such as economic incentives/disincentives and regulations. At this time, however, it was agreed that efforts that concentrate on outreach, education, and partnership development were important to establish the public understanding that will be required to make progress on this difficult issue. The following are the key activities that we have identified and chosen in pursuit of this goal in each of the phases:

Phase I – Defining the issue:

- Develop a broad based, statewide task force to address the issue, composed of internal and external interests. (This strategy assumes a strong connection with the existing cross-division DNR team on burn barrels).
- Develop a science based fact sheet on the health and environmental impacts of backyard burning and dumping.
- Benchmark innovative practices of counties, other states, and countries in addressing this issue.

Phase II – Developing potential mechanisms:

- Work with potential partners/stakeholders to identify tools for decreasing backyard burning and dumping.

Phase III - Implementing mechanisms that will achieve maximum environmental gain:

- Develop education and communication programs for public and legislature, small cities, villages and townships.
- Pilot with a county/local government and waste industry to implement tools identified in Phase II.

Phase IV - Check policy and mechanisms for results and effectiveness:

- To be determined as the earlier phases proceed.

Developing Plans for Implementation

Target 3 Group's subsequent meetings focused on reviewing and enhancing the interim work undertaken by DNR Waste Program staff to develop strategies and activities within each of the three goal areas, which would progress through four phases of development and implementation between now and 2008. The list of strategies and activities for each goal above reflects an iterative review process between the Target 3 Group and the Waste Management Team, and takes into account resource requirements.

Consistent with both the discipline of EMS and the policy template that was created, this plan will be refined, implemented, and periodically checked. It is a part of the plan that a formal assessment of progress toward these goals will occur with stakeholders in December 2002 and periodically thereafter.

Conclusions

The vision of "Moving Toward Zero Waste" is an ongoing process as well as the ultimate goal. As the Waste Program moves into new phases of activity that have been identified in this process, it will be important to retain the creative collaboration and attention given to measurable progress that were hallmarks of this policy development process. Sustaining the energy and momentum that flow between the lines of this report will ensure steady progress toward making this vision a practical reality.

Progress will not be quick, nor will it be easy. Political differences, the shifting economic climate, and the real or perceived limits of state action will regularly affect planning and implementation. Yet, these same factors were at play throughout the Waste Management Policy EMS process, resulting in priority setting and innovation rather than paralysis. This dynamic underscores a shared commitment embedded in the principles that this process developed, which includes a commitment to improving performance for the benefit of Wisconsin's environment, economy, and the well-being of its residents.

In Wisconsin, there has been consistent progress in waste management over the years. Although we have significantly increased the amount of material that we recycle and reuse, we still collectively put almost 10 million tons of trash into landfills every year from businesses, people, and neighboring states. In perspective, this is about equal to the weight of all the steel, bricks, concrete and stone of 20 Miller Parks in Milwaukee.⁵

We continue to site, construct, and operate landfills in our State that inherently have undesirable environmental impacts. While our landfill siting process and associated laws are intended to eliminate or minimize these impacts, there will be an ongoing need for policy review and adjustment as we continue to learn more about landfills and their associated impacts. It will be imperative that we all work together toward a common goal of minimizing the environmental impacts of landfills.

In addition, we cannot effectively move toward our vision of Zero Waste, without addressing the significant problems of backyard burning and dumping in Wisconsin. These problems are not unique to our State and have been determined to be a significant source of pollution across the nation. Simply stated, we cannot have one segment of our society paying for and using environmentally sound

⁵ MP FastFacts <http://www.webmagination.com/millerpark/other/fast.htm>

methods of waste management, while others continue to use methods that pose a real threat to our health, safety, and environment. We must work collaboratively with all affected parties to educate the public on these threats and eliminate the practice of backyard burning and dumping by offering innovative solutions that address the difficult realities of waste disposal in rural areas. We recognize this will be a considerable challenge.

We believe that the identified goals establish the foundation for policies that will help us minimize what waste is generated, and compel us to look at maximizing the economic and commercial value of what still remains.

In other words, we mean business. Though commerce and industry are Wisconsin's largest sources of waste, businesses can also lead the way in waste reduction. Scores of companies across the United States are improving their bottom lines and reducing environmental liabilities. With our stakeholders, we intend to build on those successes to benefit Wisconsin.

Our future work also needs to be about encouraging informed consumer choices. The vision and goals of this project are designed with the intent of influencing decision making that will affect changes in manufacturing and supply as well as result in the continued improvement of the management of materials, reducing the risks posed to the environment.

The breadth of public participation and involvement in the Waste Management Policy EMS process establishes a standard that should be continued for future success. The outcomes of this process have reinforced the fact that strong policy, inspired and informed by citizens, and discussed in relation to underlying shared principles, can significantly address emerging problems for which we all hold responsibility.

APPENDIX A: Stakeholder Participants

First group (Applied EMS to policy development, created Objectives and Targets)
Fall 2000

Externals

Tim Anderson, Rayovac
Steve Brachman, University of Wisconsin-Extension
Emily Green, Sierra Club
Lynn Morgan, Broydrick and Associates
John Reindl, Dane County Recycling Program
Brian Borofka, Wisconsin Electric (not able to make meetings; involved, but not considered a formal member of this process)

Internals

Tom Eggert, Central Office, Project Leader
Jim Bakken, South Central Region
Sue Bangert, Bureau Director
Kate Cooper, Central Office
Mike Degen, South Central Region
Carol Schmidt, Northeast Region
Gretchen Wheat, Central Office
Mark McDermid, Central Office

External Facilitator

Barbara Hummel

Target 1 Group (Created final principles document)
October 2001

Externals

Ed Huck, Wisconsin Alliance of Cities
Terry Mesch, Pepin County Recycling Program; President of AROW (Associated Recyclers of Wisconsin)
Peter Peshek, Dewitt Ross and Stevens
Heidi Rahn, Alliant Energy
Jeff Schoepke, Wisconsin Manufacturers and Commerce
Pat Walsh, University of Wisconsin-Extension

Internals

Mike Degen, South Central Region, Project Leader
Sue Bangert, Bureau Director
Kate Cooper, Central Office
Tom Eggert, Central Office
Gary LeRoy, Northern Region
John Melby, Central Office
Frank Schultz, Southeast Region

External facilitator

Barbara Hummel

Target 3 Group (Developed a strategic plan for how the Waste Program and stakeholders can effectively influence generation and consumption of materials and depletion of resources.)
February – June 2002

Externals

Gary Bartels, Superior/ONYX Waste Services
David Crass, Michael Best and Friedrich
Sonya Newenhouse, Madison Environmental Group
Rob Sherman, Kraft Foods
Phil Stecker, Superintendent of Solid Waste, Outagamie County
David Wood, Grass Roots Recycling Network (GRRN)
Ed Wilusz, Wisconsin Paper Council

Internals

Mike Degen, South Central Region, Project Leader
Sue Bangert, Bureau Director
Tom Eggert, Central Office
Don Grasser, West Central Region
Dennis Mack, Central Office
John Melby, Central Office
Frank Schultz, Southeast Region

External facilitator

Barbara Hummel

APPENDIX B: EMS Objectives and Targets
March 13, 2001

INTENT OF PROJECT OBJECTIVES:

- Establish firm and shared foundation for creating the desired future
- Establish a relationship with stakeholders and the public that promotes honest and constructive dialogue.
 - Provide a venue for more thorough exploration of past, current, and future concerns.
- Create an awareness of what Waste is doing/planning--- internally and externally.
- Promote a connection of environmental protection with a broader systems approach that values resources for future generations
- Strengthen the Waste Program's ability to look further upstream in order to impact decisions on waste and materials management.
- Improve our efficient, effective use of our resources (people, \$\$, etc.) to address environmental risk.
 - Desire to leverage the resources available to us effectively
 - Desire to expand DNR's tools (methods) to accomplish this

OBJECTIVE 1: With focused⁶ participation and input from citizens and stakeholder groups, to develop a set of common expectations and principles to guide waste and materials management in Wisconsin.

TARGET 1: Convene stakeholders on solid waste by May 2001 to work on developing a set of common expectations and principles to be applied to waste and materials management in Wisconsin, with their work to be concluded by October 31, 2001.

TARGET 2: Research from July through August 2001 what Wisconsin, other states and countries have done to develop and implement innovative policy related to waste and materials management.

Intent of this target is to have stakeholder group from Target 1 (developing common principles) shape and oversee this effort, defining the key pieces that need to be researched. This target is intended to help inform the planning process eventually, and should help minimize the extent to which Wisconsin "re-invents the wheel."

One activity recommended to be conducted as a part of this target is to identify specific organizations, manufacturers, or service sectors who may have demonstrated the ability to lead in this effort and develop ways to partner with them.

OBJECTIVE 2: To create the desired future for how the Waste Program and stakeholders will plan for and influence Wisconsin's generation and consumption of materials and depletion of resources.

TARGET 3: Convene a group of both DNR and external stakeholders by October 2001 to develop a strategic plan for how the Waste Program and stakeholders can effectively influence generation and consumption of materials and depletion of resources, to be concluded by July 2002.

Intent of this target is to build on the work done by the stakeholder group for Objective 1 (common expectations and principles). Part of this activity will also be to create guidelines and recommended frequency for regular stakeholder gatherings. NOTE: As education is considered to be

⁶ "Focused" is not intended to be exclusive. Rather, the implementation plan for this activity has stakeholder meetings in each of the five regions across the State. Each region has committed to convening a variety of stakeholder interests rather than keeping it open-ended and possibly poorly attended.

a critical component of this effort, both personnel from DNR's C&E as well as educators should be included as a part of the stakeholder group.

One recommended activity conducted as a part of this target is to identify the most problematic waste streams for appropriate/desirable actions to shift the generation and consumption of materials and depletion of resources.

Another recommended activity from the conclusions of this effort will be to align these conclusions and the Department's Strategic Implementation Plan to best focus the resources of the Waste program.

TARGET 4: As a pilot for developing specific policy, work with stakeholders between August 2001 and April 2002 to develop a program to decrease generation and prevent release of persistent, bioaccumulative toxics (PBTs) into the environment. During April 2001, the specific parameters of this activity will be detailed.

This specific area represents a significant environmental issue that needs policy development; the methods and thinking for this development are intended to incorporate the thinking and work done related to targets under Objective 1 (common expectations and principles), and are to overlap with the work done relative to Target 3 (actions and timelines).

TARGET 5: From August 2001 through October 2001, develop conduits for information and idea transfer to, within, and from the DNR that will provide meaningful opportunities for stakeholders and other interested public to contribute to the strategic planning process and program direction.

The intent of this target is that the development of a communication plan be developed in concert with the work done for Target 3 (actions and timelines).

TARGET 6: Host periodic stakeholder gatherings to check on the implementation of the strategic plan, identify corrections that need to be made, and adjust our course. The first stakeholder check will occur by December 2002.

Please see stakeholder comments noted under Target 3 (actions and timelines). Intent of these gatherings is to identify and discuss barriers, opportunities, and potential/pending legislation from both internal and external stakeholders. The team suggests a formal check annually.

APPENDIX C: Themes of Comments Received in Regional Meetings around the State Summer 2001

- **Re-defining “waste”**
 - What would be different if waste were first considered a potential resource?
 - What are the current waste streams that hold the greatest return for this kind of re-framing?
- **Looking at waste management as a system**
 - If waste—solid waste, hazardous waste, recycling—were integrated as an overall system, what would need to change? What are the system components that would make this most workable?
- **Looking at overall impact**
 - What are the waste streams that we should be most concerned about?
 - Asking important and relevant questions:
 - Is it a scarce resource?
 - Is it hazardous to the environment or other people?
 - Is it economically feasible/productive in increasing quality of life?
 - Is the focus on recycling of glass & paper the most environmentally effective focus? What about household HW, oil, tires?
- **Ensuring work is efficient and effective**
 - What transactions in waste compliance and enforcement hold the most promise for efficiency improvements while still not sacrificing effectiveness?
- **Working toward regulatory flexibility and innovation**
 - Proposed savings/benefits for larger scale composting
 - Capturing more organics before putting in the ground
 - Bioreactors – relationship to methane credits
 - Can policies be composed that accept a range of responses to accommodate variations in regional differences?
 - Clarity of regulation to increase possibility of self-enforcement
 - Role for Waste program in regulating creation of waste vs. management of waste after the fact
 - What opportunities lie with recycling products (road construction, farmers landspreading or composting materials) with other state agencies?
 - Looking at policies to make sure they don’t encourage waste generation
 - Looking at what policies might make major shifts with industries within WI that are major waste generators.
- **Economics of waste generation and management**
 - Recognizing that economics drives decision-making
 - Looking at virgin vs. recycled material use
 - Study current system of subsidies and incentives relative to resulting waste generation or disposal
 - What are the regulatory burdens that discourage recycling or effective waste minimization?
 - Understanding incentives/disincentives
 - Study incentives/disincentives relative to consumer practices in solid waste and landfilling
 - Shift cost of disposal to cost of consumer purchase decision?

- Understanding supply and demand
- Understanding related costs
- **Issues related to public/private waste handling**
- **Funding concerns** (mainly about recycling)
- **Consumer education/responsibility**
 - Can we identify the future crises in a compelling way to create climate for change?
- **Cross-media and interagency issues**
- **Examining the make-up and volume of waste generated**
 - Demolition waste/construction waste as potential focus
- **Changing waste disposal strategies**
 - Waste generation: looking at wider range of products for deposits; using revenue to manufacturers on a proportional basis
 - Look at reducing waste generation of hazardous waste
- **Out-of-state waste issues**
 - Addressing out-of-state waste that comes to WI
- **Issues related to hazardous waste** (mercury, household HW)
 - Determining future priorities (desired clarity, focusing on greatest environmental impacts)
- **Taking another look at the waste hierarchy, which doesn't reflect funding or decision-making**
- **Looking at long-term liability differently**
 - Re-use and concern about long-term liability
 - creates indecision within DNR re: guidance needed
 - affects companies' decisions about using waste (vs. virgin) materials
- **Adequate enforcement**
 - Are penalties strong enough? How can they be more evenly enforced?
- **Building strong relationships** (with public, Legislature, industry groups)
- **Learning what's working elsewhere**
- **Reconciling different standards (state-to-state, state and federal)**
- **Interactions with local governments on implementation**
 - Local governments:
 - Feel out of loop re: landfill siting
 - Better ways needed to manage landfills and recycling locally
 - No specific municipality is in charge of waste
 - County's role—LF siting; meshing of plans
 - Regional planning not done enough
- **Creating different measures—what will constitute “success” in future?**
 - Look to creating maximize volume generation (vs. total capacity) for landfills
 - Performance measures for landfills are hard, given length of time to impact
 - How to make composting more palatable
 - Is zero risk realistic (foundry...)
- **Assigning responsibility** (source of contamination vs. clean up)
- **More opportunities for DNR staff learning** (retaining and enhancing agency expertise)

APPENDIX D: Principles Underlying Future Waste Management Policies

These principles are meant to be living language, and not just fine print. They are to be used to spark honest, constructive dialogue among the wide range of interested parties.

Language incorporated in these principles reflects an interest in encouraging not only enforcement but also voluntary actions as potential ways for affected parties to address important environmental concerns. Our work with stakeholder groups in developing these principles indicates that resource use and conservation are issues of stewardship for so many—not just the Waste Program or DNR.

We expect that applying these principles to future work will promote more effective engagement among all parties, bringing about the greatest amount of environmental gain and protection.¹

Purpose: To provide a shared foundation between the Waste Program and its stakeholders to work together to achieve effective waste and materials management.

Clear and measurable goals

- Policies should establish clear goals that can be evaluated.

Resource use and conservation

- Policies should address the inter-relatedness of air, land, and water.
- Policies should recognize the environment does not stop at political boundaries.
- Policies should conserve resources for the benefit of future generations.
- Policies should consider both the long-term and short-term needs and demands of the natural environment and human society.
- Policies should optimize the cycle of materials use, recovery and reuse.
- Policies should create conditions for directing public and private resources efficiently in order to achieve continuing environmental improvement and protection.

Informed environmental choices

- Policies should ensure that knowledge about environmental consequences is integrated into the choices and decisions that people make.
- Policies should be based on the best available scientific and economic information.

Accountability

- Policies should encourage acceptance of personal responsibility for consequences of one's actions.
- Policies should include a continuous educational process to help individuals and organizations develop environmental accountability.

Public involvement

- Policies should be the result of a public dialogue on desired environmental outcomes.
 - Policies should result from an inclusive process that involves the interested public.

Mechanisms

- Policies should be flexible, encourage transparency, reward innovation and contain both incentives and disincentives.

¹ These principles were the result of applying EMS to the policy development process. An initial draft was crafted to reflect the common ground developed between a group representing both the Waste Program and a broad range of external interests. That draft was subsequently reviewed for comment in six meetings across the State, after which another diverse group discussed those comments and finalized this document.

APPENDIX E: Using the Principles January 2002

Purpose of these principles: To provide a shared foundation between the Waste Program and its stakeholders to achieve effective waste and materials management.

PRINCIPLES	QUESTIONS, CLARIFICATION POINTS IN CONVERSATION
Clear and measurable goals <ul style="list-style-type: none"> • Policies should establish clear goals that can be evaluated. 	<ul style="list-style-type: none"> • What are the desired results for the issue that's being raised? • What would "success" look like? How would we know?
Resource use and conservation <ul style="list-style-type: none"> • Policies should address the inter-relatedness of air, land, and water. • Policies should recognize the environment does not stop at political boundaries. • Policies should conserve resources for the benefit of future generations. • Policies should consider both the long-term and short-term needs and demands of the natural environment and human society. • Policies should optimize the cycle of materials use, recovery and reuse. • Policies should create conditions for directing public and private resources efficiently in order to achieve continuing environmental improvement and protection. 	<ul style="list-style-type: none"> • Are there potential overlaps with other DNR program areas? • Are there geographic and/or political implications for this particular issue that we need to factor into our discussion? • How could we more effectively apply the cycle of use, recovery and reuse? • What are the most efficient and effective ways we could deal with this issue? • What are both the short-term and long-term effects?? • What are current obstacles?
Informed environmental choices <ul style="list-style-type: none"> • Policies should ensure that knowledge about environmental consequences is integrated into the choices and decisions that people make. • Policies should be based on the best available scientific and economic information. 	<ul style="list-style-type: none"> • What is the best information to use to assess the problems and/or solutions? • How do we best provide information for people to make wise choices?
Accountability <ul style="list-style-type: none"> • Policies should encourage acceptance of personal responsibility for consequences of one's actions. • Policies should include a continuous educational process to help individuals and organizations develop environmental accountability. 	<ul style="list-style-type: none"> • How has this particular issue developed? • What are the sources of the waste being generated? • What information is being made available to those generating the waste? • What more environmentally appropriate alternatives could be suggested?
Public involvement <ul style="list-style-type: none"> • Policies should be the result of a public dialogue on desired environmental outcomes. • Policies should result from an inclusive process that involves the interested public. 	<ul style="list-style-type: none"> • Who else needs to be involved in these discussions? • What is the most effective way to engage interested parties? • As this activity develops, what are the appropriate points for broader public input?
Mechanisms <ul style="list-style-type: none"> • Policies should be flexible, encourage transparency, reward innovation and contain both incentives and disincentives. 	<ul style="list-style-type: none"> • What are the different mechanisms that could be used to create the desired results?

APPENDIX F: Template for Policy Development

PHASE I: DEFINING THE ISSUE

During this phase, the following will occur:

- Key stakeholders will be identified; appropriate dialogue(s) begin.
- A plan identifying appropriate points for stakeholder involvement in the policy development process will be created.
- Cross-media and political intersections will be identified; appropriate dialogue(s) begin.
- Sources of waste generation will be identified and quantified to the best extent possible.
- Relevant scientific and economic data will be identified and summarized.
- Short-term and long-term environmental consequences will be identified and summarized.
- Potential for improvement and measures of success will be quantified.
- Existing policies affecting the issue will be identified.

PHASE II: DEVELOPING POTENTIAL MECHANISMS

During this phase, the following will occur:

- Stakeholder involvement will be used strategically and effectively to help shape potential mechanisms to address the defined issue.
- Mechanisms that bring the promise of greatest environmental improvement will have priority consideration.
- Current Waste Program practices that impact the defined issue will be reviewed for effectiveness.
- Flexibility, transparency, innovation, and financial incentives and/or disincentives will be considered in creating other mechanisms to bring about the desired environmental improvement.

PHASE III: IMPLEMENTING MECHANISMS

During this phase, the following will occur:

- Clear choices about the mix of mechanisms will be made, with specific timelines and resource dedications for their implementation. The principles will provide the basis for this decision-making process.
- Information and communication will be strong components of implementation, both for the general public and for industry.

PHASE IV: CHECK FOR RESULTS AND EFFECTIVENESS

During this phase, the following will occur:

- Specific and periodic checks on the degree of progress will be made, using the measures of success specified in Phase I.
- Stakeholder input will be sought, both on implementation as well as potential improvements.
- Decisions will be made as to changes in policies and practices; timelines and resource dedications for these changes will be specified.